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## A survey of goat meat acceptability in Japan

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### ABSTRACT

A questionnaire survey was designed to gauge consumer interest in goat meat. The questionnaire was responded to by 98 households living in or near Tokyo. The main results of the survey are as follows. 1) Impression of goat meat; 61% of the respondents indicated that goat meat was “not common in their home”. 2) Consumer experience; only 16% of the respondents had experience of eating goat meat and they felt goat meat is “smelly”(50%), “tender”(38%) and “delicious”(31%). 3) The two main reasons why consumers have not eaten goat meat were “lack of purchasing opportunity”(78%) and “don’t feel like eating it”(18%). 4) Options to promote goat meat consumption; 52% of respondents who have not eaten goat meat were prepared to purchase if it was available in the supermarket at a reasonable price and if recipes were added with the meat package. 5) Reasons for people not purchasing goat meat included “dislike of new meat” and “pity for the goat”.

These results show that goat meat can be promoted to the Japanese households as “a new product” if the price is reasonable and recipes are added to the package. However, a considerable number of market strategies need to be implemented to achieve the acceptance of goat meat by Japanese consumers.

**Keywords:** goat meat; acceptability; Japan; New Zealand.

### INTRODUCTION

Goat farming systems were introduced from France to Japan by Masayoshi Matsukata, the first minister of finance, in the late 18<sup>th</sup> century. However, goat breed organisation and market development have lagged behind cattle and sheep. Goats are often identified with the small or hobby farmer. In economically difficult times, goats have provided important sustenance, self-sufficiency and survival, earning the nickname of “cow of the poor man”. Halenlein (1996) stated that the number of goats is an inverse index to economic prosperity, suggesting that goat numbers should dwindle when a country experiences economic good times. This has been true in Japan, where great numbers of goats existed before (300,000 head in 1940) and just after World War II (413,000 head in 1950) (Ministry of Agriculture, Forestry and Fishery, 1999a), but had declined to 35,000 head in 2000. However, there is a new awareness in Japan that goats can be a source of nutrition for affluent people. Connoisseurs of gourmet foods are willing to pay high prices for certain goat milk products that often are imported into Japan. Some 150 tonnes of frozen goat meat were imported tax-free into Japan mainly from Australia. Only 7 tonnes of goat meat came from New Zealand in 2000 (Ministry of Finance, 2000). In Japan, only people of the Okinawa region (the southernmost part of Japan, 1600km from Tokyo) have a tradition of eating goat meat, especially on festival days. People of this region also consumed most of the imported goat meat. Goat meat consumption is not common among other Japanese regions.

There has not been any detailed research in Japan regarding goat meat consumption. The objectives of this study were to survey consumer perceptions about goat meat and to examine whether those perceptions would allow for a possible market expansion for goat meat in

Japan.

### MATERIALS AND METHODS

A questionnaire survey was designed to gauge consumer interest in goat meat in Japan. The questionnaires were mailed to 120 households that were randomly selected from the entire roster of student addresses at the Nippon Veterinary and Animal Science University. A total of 98 questionnaires were returned (82% response rate). Contrasts were made between those who had or had not eaten goat meat and for those who had not eaten goat meat, whether they were prepared to purchase goat meat or not.

To enable forward planning of the expansion of goat number needed to meet increased goat meat consumption, a scenario of 0.1% increase in consumption was considered using data from Ministry of Public Management, Home Affairs, Post and Telecommunications (2001), Ministry of Agriculture, Forestry and Fishery (1999b) and Ministry of Finance (2000). For the simulation the following information was needed: the annual quantity of meat consumption per household, the number of households, the number of household members, the number of goats, the number of goats slaughtered, the quantity of goat carcasses and the quantity of imported goat meat. The dressed meat percentage was set at 21% of live-weight as suggested by the experimental results reported by the National Livestock Breeding Centre (1973).

### RESULTS

Table 1 shows the summary of the questionnaire survey. Ninety-five out of 98 respondents were female and the mean ( $\pm$ SD) age was  $48.3 \pm 4.2$  years. These respondents were divided equally between urban regions

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(Tokyo, Osaka and Nagoya) and rural regions.

The main impression of goat meat by the respondents was “Not common to eat at home” (61%), while “Smelly” and “Never thought about goat meat” were also important. “Small numbers of stock and breeders”, “Not the custom to eat” were suggested as the two major reasons as to why goat meat is rarely sold at Japanese meat shops. Only 16% of respondents had ever eaten goat meat before.

**TABLE 1:** Summary of the questionnaire survey.

|   |           |       |
|---|-----------|-------|
| Total number of respondents   | 98        |       |
| Percentage of female  | 96%       |       |
| Age of respondents  |           |       |
| mean  | 48.3 year |       |
| sd  | 4.2 year  |       |
| Area of origin  |           |       |
| Urban   | 53        | (54%) |
| Rural   | 45        | (46%) |
| 1) Impression of goat meat (multiple answers up to three), n=218    |           |       |
| Not common at home  | 61%       |       |
| Smelly  | 51%       |       |
| Never thought about   | 32%       |       |
| Nutritious  | 20%       |       |
| Tough   | 19%       |       |
| Delicacy  | 10%       |       |
| 2) Reason to think why goat meat is rarely sold at meat shops, n=90 |           |       |
| Few number of stock and breeder                                     | 28%       |       |
| Not the custom to eat   | 24%       |       |
| Smelly  | 12%       |       |
| Its cute image  | 9%        |       |
| Low meat quantity   | 8%        |       |
| Lack of recipe  | 7%        |       |
| 3) Have you ever eaten goat meat before? n=98                       |           |       |
| Yes   | 16%       |       |
| No  | 84%       |       |

Table 2 presents the characteristics of the 16% of respondents who had eaten goat meat. Half of those who had eaten goat meat had the negative impression that goat meat was “Smelly”. However, positive responses such as “Tender” (38%) or “Delicious” (31%) were also recorded. Most had eaten goat meat at a restaurant (69%) prepared in a roasted fashion (50%).

**TABLE 2:** Differences between respondents who had either eaten or not eaten goat meat.

|   |     |
|---|-----|
| Eaten goat meat (n=16)  |     |
| Impression of goat meat   |     |
| Smelly  | 50% |
| Tender  | 38% |
| Delicious   | 31% |
| Preparation of goat meat  |     |
| Roasted   | 50% |
| Soup  | 19% |
| Boiled  | 19% |
| Place of eating goat meat   |     |
| Restaurant  | 69% |
| Home or a relative's house  | 31% |
| Not eaten goat meat (n=82)  |     |
| Reason for not eating goat meat   |     |
| Lack of eating opportunity  | 78% |
| Don't feel like to eating   | 18% |
| Other   | 4%  |
| If you find packed goat meat with recipe at reasonable price at the supermarket, would you like to purchase? (n=58) |     |
| Yes   | 52% |
| No  | 48% |
| Reason of answering "yes" (n=27)  |     |
| From curiosity  | 67% |
| Nutritious  | 19% |
| Appealing   | 11% |
| Other   | 3%  |
| Reason of answering "no" (n=21)   |     |
| Dislike new meat  | 29% |
| Pity for the goat   | 24% |
| Anxiety for safety  | 14% |
| Not attractive for meat   | 14% |
| Other   | 19% |

Table 2 also reports the impressions of those who had not consumed goat meat. A significant proportion (78%) answered that a “lack of eating opportunity” was the reason for not having eaten goat meat. About half (52%) of the respondents were prepared to purchase goat meat if it was sold at a reasonable price along with recipes at a supermarket. The main reason for being prepared to try goat meat was because of curiosity about its taste (63%). The main reasons for not being prepared to buy goat meat were either, “Disliked new meat” (29%) or had “Pity for the goat” (24%).

Table 3 compares the impressions of those respondents who were prepared to buy goat meat (n=31) with those who weren't (n=27). There were few

differences between the two groups, with “Not common to eat at home”, and “Smelly” being the two main impressions of goat meat for both groups. The opinion that goat meat was “Nutritious” only occurred amongst the group who were prepared to buy goat meat.

Table 4 examines the expansion in goat numbers and goat meat production required to meet a substitution rate of 0.1% of goat meat for other meats in either all of Japan or the Tokyo metropolitan area alone. To meet this substitution rate in Japan, 1,286 tonnes of dressed goat meat would be required which is 5.4 times larger than the total volume of current goat meat supply. To meet this demand, 78,427 live goats will be needed, which represents two times the size of the national herd in 2000. This same rate of substitution (0.1%) in Tokyo would require some 142 tonnes of dressed goat meat and ¼ of current national herd number of goat is needed to meet this demand.

## DISCUSSION

A large majority of completed survey forms were returned, indicating an interest by Japanese housewives in what meats they are offered to choose from. The typical respondents were older female with a child at a private university. This suggests they were upper-middle class “homemakers” responsible for the purchase of groceries for the household. These homemakers were equally represented by urban- and rural-dwellers in this survey.

**TABLE 3:** Differences in opinion about goat meat by respondents who had not eaten goat meat.

|  |     |
|--|-----|
| (1) "Yes, I would like to buy goat meat at a reasonable price with recipe" |     |
| (n=31, multiple answers)   |     |
| Not common at home   | 71% |
| Smelly   | 42% |
| Nutritious   | 32% |
| Never thought about  | 26% |
| Tough  | 23% |
| (2) "No, I would NOT buy goat meat"  |     |
| (n=27, multiple answers)   |     |
| Not common at home   | 63% |
| Smelly   | 52% |
| Never thought about  | 37% |
| Tough  | 15% |

Only about 1 in 6 people surveyed had eaten goat meat. This is reflective of most goat meat being consumed in Okinawa, which is distant from the Tokyo environs. It would be useful to repeat this survey in Okinawa to investigate whether similar perceptions about goat meat are held in that region.

The survey results indicated that many consumers believed that they do not have the opportunity to purchase goat meat because there are few goats in Japan, leading to a “lack of eating opportunity” as the main reason why respondents had not eaten goat meat. If goat meat was sold at a reasonable price along with recipes at the supermarket, more than 50% of respondents indicated a willingness to purchase goat meat for “curiosity”. This may represent a major marketing opportunity, providing these curious consumers can be turned into repeat buyers through offering a good product and an adequate supply.

Many respondents indicated the negative perception of “smelly goat meat”; even those who had not eaten goat meat. The origin of this perception may be that respondents considered goat meat to be similar to mutton because of the common appearance. Mutton is much more readily available at the butchery to homemakers in Japan than is goat meat. Even though mutton is recognised as a “smelly” meat, it is often purchased because of its cheap retail price.

No significant differences were detected in the profile of respondents who had not eaten goat meat but either would, or would not, purchase goat meat given the opportunity. This suggests that marketers can formulate a generic advertising campaign if the decision is made to promote the consumption of greater quantities of goat meat.

A major difficulty confronting goat producers in Japan is that even a small increase in goat meat consumption is difficult to meet through a natural increase in the national herd. For example, if only 0.1% of individual annual meat consumption is replaced by goat meat (12g-National, 11g-Tokyo), this requires either a 540% increase of national goat numbers if the increased consumption occurs in national wide, or a ¼ of total national goat herd is needed just to provide for Tokyo. Therefore, any modest expansion of the Japanese goat meat market is going to require a coordinated increase in both domestic production and the importation of goat meat. Given the relatively small international trade in goat meat, further research is needed to show whether or not the current suppliers (Australia and New Zealand) would be able to supply the additional quantities of goat meat.

## CONCLUSIONS

The results show that about half of respondents aspired to purchase goat meat if they had the opportunity. This proportion was greater than anticipated and deserves further research. This study suggests that promotion of goat meat to the Japanese upper-middle class housewives should result in a significant expansion of the goat meat market. Only a small percentage increase in goat meat consumption would require large increases in domestic goat numbers, with a strong likelihood of needing support from tax-free imported goat meat to satisfy the demand. The average

CIF (cost,

**TABLE 4:** Increase in goat meat and goat numbers needed to meet a goat meat substitution rate of 0.1% in either Tokyo or Japan.

|  | Area  |             |
|--|-------|-------------|
|  | Tokyo | Japan       |
| Dressed goat meat requirement (ton/yr)               | 142   | 1,286       |
| Goat number requirement to meet the demand (head/yr) | 8,689 | 78,427      |
| Notes: Domestic dressed goat meat production in 2000 |       | 68 tonnes   |
| Imported dressed goat meat production in 2000        |       | 148 tonnes  |
| Total number of Japanese goat in 2000                |       | 35,000 head |

insurance and freight) goat meat price in year 2000 was 282 yen/kg (NZ\$ 5.50/kg). If New Zealand goat meat can achieve a better price than the average imported CIF price, then New Zealand goat meat farmers may have a great opportunity to supply the Japanese market.

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